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INSECTS OF THE NORTHERN PARTS OF BRITISH AMERICA.

COMPILED BY THE EDITOR.

From Kirby's Fauna Boreali-Americana: Insecta.

(Continued from page 93.)

31. AGONUM AFFINE, Kirby.—Length of body 4 lines. Locality not stated. A single specimen taken.

Body very black, glossy. Antennæ longer than the prothorax: prothorax of the same width before as behind, so as to appear more square than in the preceding species; its lateral margin at the base is likewise not reflexed, the dorsal channel is slight, and the disk is minutely and transversely wrinkled; the basilar impressions are deep, large and circular; elytra very slightly bronzed; three punctiform impressions, the anterior one adjoining the third furrow, and the two posterior the second, are visible in the usual situation; the four anterior trochanters are of a deep red.

[28] 32. AGONUM ERYTHROPUM, Kirby.—Length of body $4\frac{1}{4}$ lines. Taken in Canada by Dr. Bigsby.

Body glossy, black underneath, above bronzed. Antennæ black, with the scape dusky rufous; prothorax tinted with copper, obcordate, with rounded angles; basilar impressions round and deep; elytra tinted with copper, with three nearly obsolete punctiform impressions in the usual situation; legs dusky rufous; in other respects it resembles *A. seminitidum*.

This species appears to be the American representative of *A. parumpunctatum*. It is, however, larger, more bronzed, the impressions are less distinct and more distant, and the thighs as well as the tibiæ and tarsi are rufous.

[The name of this species is pre-occupied by Dejean's *P. erythropus*; it is placed with a mark of interrogation in Dr. LeConte's list under *Platynus subcordatus*, Lec.]

33. AGONUM CUPRIPENNE, Say. Plate I. fig. 4.—Many specimens of this lovely *Agonum* were taken in lat. 54° . It appears to be very common in North America, where it represents *A. sexpunctatum*, the most brilliant

of our European species, but which *A. cupripenne* far exceeds in beauty. [Quite common in Western Canada.]

[29] 34. *CALATHUS GREGARIUS*, Say.—Taken frequently in lat. 54°. [Say, Ent. Works, ii. p. 472. Taken in both Ontario and Quebec.]

35. *PLATYDERUS NITIDUS*, Kirby. Plate I. fig. 5.—Length of body 4 lines. Three specimens, all females, taken in lat. 54°.

Body black, glossy; head triangular; mouth piceous; antennæ rather longer than the prothorax, piceous with the terminating joints paler, scape rufous; prothorax subquadrangular, with the posterior angles rounded, emarginate at the base as well as at the apex, slightly channelled, with a pair of linear basilar impressions on each side, the external one being oblique and the other longitudinal; elytra rather deeply furrowed, with two punctiform impressions in the usual situation; viewed in the sun, the elytra exhibit changeable shades of blue and bronze; forebreast piceous; legs clear, testaceous. [Previously described as *Feronia (Pterostichus) erythropus*, by Dejean.]

[30] 36. *ARGUTOR BICOLOR*, Kirby.—Length of body 3 lines. Taken twice in lat. 54°.

Body glossy, above black, beneath mahogany coloured; antennæ and palpi at the base dark mahogany colour; prothorax longer than wide, rather narrowest at the base, where it is slightly sinuated, anterior angles rounded, without punctures, dorsal channel slight, a deep short basilar furrow on each side; elytra slightly furrowed with impunctured furrows, the seventh from the suture obsolete; in the interstice between the second and third are three punctiform impressions, the anterior one adjoining the latter and the two posterior ones the former.

This species approaches very near to *A. erythropus*, Dejean, but it is smaller, and the posterior angles of the prothorax are not rounded. The under side of the body, the legs and antennæ, are all of the same colour, sometimes a little darker, at others a little paler. [The genus *Argutor*, Meg. is now included in *Pterostichus*.]

37. *ARGUTOR [PTEROSTICHUS] FEMORALIS*, Kirby.—Length of the body 3½ lines. Taken in lat. 54°.

This species approaches very near to the preceding one, and its place is between that and *A. vernalis*, of which it is the American representative. It differs from *A. bicolor* chiefly in having only the scape of the antennæ and the tibiæ and tarsi of a different colour from the rest of the body, and in having the anterior half of the furrows of the elytra slightly punctured; and from the latter in having the prothorax narrower at the base, with only a single impunctured impression on each side. [We have received a

specimen of this species, taken in the United States, from our friend Mr. F. G. Sanborn, of Boston, Mass.]

[31] 38. ARGUTOR [PTEROSTICHUS] MANDIBULARIS, Kirby.—Length of the body $3\frac{1}{2}$ lines. Taken in lat. 54° .

Body glossy, underneath black, above black-bronzed; mandibles, palpi, scape of antennae and legs rufous, or rather pale chestnut; frontal impressions rather wide: prothorax truncato-obcordate, with a basilar furrow on each side and a few punctures at the posterior angles; elytra lightly furrowed, with punctures in the furrows; two punctiform impressions in the usual situation, one a little beyond the middle of the elytrum, adjacent to the second furrow, and the posterior one near the apex adjacent to the third.

Variety B. Black above, with the whole antennae rufous, elytra piceous, perhaps an immature specimen.

39. ARGUTOR [PTEROSTICHUS] BREVICORNIS, Kirby. Plate viii. fig. 3.—Length of body 3 lines. Taken in lat. 65° .

This with the preceding species, in the shape of the prothorax, which is obcordate, departs a little from the others. *A. brevicornis* resembles *A. mandibularis* in many respects, but the body is black, as are also the mandibles and palpi; the antennae of the male are shorter, and those of the female not longer, than the prothorax; one of these organs in the latter sex, in the only ♀ specimen taken, appears to have been affected by some disease, for the two last joints are larger than the preceding ones, so as to form a kind of knob; it is the right-hand antenna that is so circumstanced; the little furrows at the base of the prothorax are wider than in *A. mandibularis*; the elytra of the ♂ have three, and those of the ♀ four, punctiform impressions, all adjacent to the third furrow. The last eight joints of the antennae in this species have less down and shine more than is usual with the ground beetles in general.

[LeConte, in his list, asks whether this species may not be equivalent to *P. fastidiosus*. Mann.]

[32] 40. OMASEUS [PTEROSTICHUS] ORINOMUM, Leach.—Length of body $5\frac{1}{2}$ lines. Taken frequently in lat. 54° and 65° .

Body oblong, glossy, black. Head rather ovate, underneath, in some specimens, chestnut, in others black; palpi piceous; prothorax subcordate, rather longer than wide; a deep, punctured, basilar impression on each side; posterior margin slightly sinuate; elytra subacuminate, lightly furrowed with from four to six largish impressions in the second and third furrows, the first usually being in the third and the second on the second furrow, but the others occasionally varying; the natural number of these impressions seems to be five; legs black, with piceous tarsi.

Variety B. Legs chestnut.

C. Tibiæ and tarsi chestnut.

From the number of specimens collected in the expedition, I should conjecture this to be one of the most common of North American insects. It appears, however, not to have been noticed by Say, nor was it amongst those collected by Dr. Bigsby in Canada, or by Dr. MacCulloch and Capt. Hall in Nova Scotia. [According to LeConte an erroneous determination for *P. luczotii*, Dej., a species taken in Ontario and Quebec.]

41. OMASEUS [PTEROSTICHUS] NIGRITA, *Curtis*.—This is *P. caudicalis*, Say (Ent. Works, ii. 480); it has been taken at Ottawa by Mr. Billings.]

[33] 42. OMASEUS [PTEROSTICHUS] PICICORNIS, *Kirby*.—[Previously described as *P. mutus* by Say (Ent. Works, ii. 470); taken in Canada and the United States.]

[34] 43. STEREOCERUS [AMARA] SIMILIS, *Kirby*.—Plate-viii. fig. 1.—Length of body $5\frac{1}{4}$ lines. A pair were taken in lat. 54° .

Body of a piecous-black, glossy. Palpi piceous; antennae chestnut; frontal impressions deep, rather curving; occiput punctured with scattered punctures; prothorax nearly square with curved sides; basilar impressions wide, punctured, deeply bisulcate, with an elevated little ridge between them and the margin; elytra bronzed, furrowed, furrows scarcely punctured; legs pale chestnut. In the ♀ the elytra are not bronzed, the legs are darker, and the terminal joint of the palpi is longer.

[35.] CURTONOTUS [AMARA] CONVEXIUSCULUS, *Stephens*.—Length of body $5\frac{1}{4}$ lines. Taken in lat. 65° .

Body dark piceous, sometimes a little bronzed. Antennae and palpi rufous; frontal impressions short, connected by a rather deep furrow; prothorax constricted and punctured at the base, depressed on each side; basilar impressions bisulcate; posterior angles acute, recurved; elytra furrowed, furrows punctured; sides of the ventral segments of the abdomen somewhat punctured and wrinkled, those of the mid-breast grossly punctured; legs chestnut.

[LeConte considers this an erroneous determination, and places it, with a mark of interrogation, as a synonym of his *A. laticollis*, stating (Pro. Acad. Nat. Sci., Phil., June, 1855, p. 347,) respecting the latter that it is "found in Nebraska Territory near the Rocky Mountains. Very similar to the European *A. convexiuscula*, but in comparison with that species the thorax is more rounded on the sides, more narrowed behind, and more finely margined."]

45. CURTONOTUS [AMARA] RUFIMANUS, *Kirby*.—Length of body 5 lines. Several taken in lat. 54° .

This is extremely similar to the species last described, from which it principally differs in having the legs of the colour of dark pitch, with the exception of the hands or anterior tarsi, which are rufous ; the sides of the ventral segments of the abdomen also appear less conspicuously punctured.

[LeConte (*loc. cit.* p. 356) states that this is "probably a variety of *A. laticollis*, Lec., in which case the name will not have preference, as the description must be considered worthless, and moreover must be considered as erroneously separated from *A. convexiuscula*, Kirby." He makes the same remarks also upon the two following species : *C. brevilabris*, Kirby, and *C. latior*, Kirby.]

45. *CURTONOTUS BREVILABRIS*, Kirby.—Length of body $4\frac{1}{3}$ lines. A single specimen taken in lat. 65°.

[36.] Like the preceding species, but smaller ; the upper lip is blacker, not half so long and slightly emarginate ; the elytra are dark, and the legs pale chestnut ; the furrows of the former are less conspicuously punctured ; the frontal impressions likewise are longer and connected by a slighter furrow.

47. *CURTONOTUS LATIOR*, Kirby.—Length of the body 5 lines. One specimen only taken.

This species has a good deal the aspect of *Bradytus apricarius*, but it is a larger insect and rather wider in proportion, and the bifid intermediate tooth of the lower lip proves that it is a true *Curtonotus*. Body piceous, above bronzed. Upper lip, palpi, antennae, side-covers, and legs, all rufous ; nose at the anterior margin has an obtuse-angular sinus ; frontal impressions punctiform, connected by a slightly-drawn line or furrow ; prothorax wider than long, the lateral margins forming a segment of a circle without any posterior constriction ; at the base the prothorax is depressed, the basilar impressions are bisulcate, the inner furrow being the longest ; furrows of the elytra punctured.

48. *PÆCILUS [PTEROSTICHUS] LUCUBLANDUS*, Say.—Many specimens taken in lat. 54°. [Excessively common in Canada ; for description *vide* Say's Ent. Works, ii. 478.]

[37] 49. *PÆCILUS [PTEROSTICHUS] CASTANIPES*, Kirby.—Length of body $5\frac{1}{2}$ lines. One specimen only taken.

This species differs from variety D. of *P. lucublandus* ("entirely black, with the sides of the prothorax impunctured, elytra violet"), which it much resembles, it being entirely black ; in having slighter basilar impressions, less distinctly punctured ; it has likewise only three punctiform impressions on the elytra, the granular reticulations of the substance of which

are also more easily discovered. [Considered to be merely a variety of *P. lucublandus* by LeConte.]

50. *PÆCILUS* [*PTEROSTICHUS*] *CHALCITES*, Say.—Only a single specimen taken.

[Not uncommon in Canada ; for description *vide* Say's Ent. Works, ii. 479.]

ON THE ECONOMY OF A SPECIES OF *FEONUS*.

BY WM. COUPER, MONTREAL.

On the 8th of January last, while searching for hybernating Coleoptera in the woods near Ottawa, I had occasion to strip the bark of a decayed ash tree, under which, among other insect store, I found a small transparent and curiously formed cocoon containing a larva of a fly which was at that time unknown to me. The cocoon was imbedded in the bark, occupying what I am now led to believe the excavation made by a grub of *Cerambyx*, or some other Coleopterous bark-borer. When cocoons belonging to the genera *EVANIIDÆ* or *ICHNEUMONIDÆ* are found under bark of trees, or stones imbedded in the earth, we may safely assume that they are accompanied by parasites, and that the original possessor has been devoured because it was just the food that suited them. Thus it is not difficult to trace the economy of many species of the above named genera ; but as I am not certain that either cocoon or insect were hitherto described, I have taken the trouble to send you the following : The shape of the cocoon is oblong, surrounded by a band, and covered by a thin pellucid lid, and the form resembles a small coffin. The head of the insect was placed at the small end, and the space in front of it is packed with minute particles of dust, evidently produced from the bark by the original occupier. Length of cocoon $\frac{3}{8}$ inch.

Feonus Arca, n. sp.—Head black, glossy, impunctured ; eyes black, round ; antennæ black, two eighths of an inch long ; thorax not so black as head ; the sides beneath and between the wings dark chestnut, interspersed with short fulvous hairs ; wings fuliginous ; nervures and stigma black ; legs black, hairy ; base of the femora fulvous ; abdomen bright red, with scattered fulvous hairs ; ovipositor black, as long as antennæ. Length $\frac{3}{8}$ inch.

I have another cocoon of the same form in my collection, but the work of a larger species, being half an inch long. It therefore behoves that persons who wish to study the economy of these useful insects, should search for them early in autumn, when they will be discovered either destroying the larva or forming the cocoon in which they rest during the winter.

ENTOMOLOGICAL GLEANINGS.

BY W. SAUNDERS, LONDON, ONT.

With a fruit farm in the country frequently visited, and a fruit garden in town, my opportunities for observing the times and doings of insect foes and friends are sufficiently ample to satisfy the desires of the most active and enthusiastic "bug-hunter" that ever carried a net. Now a swarm of caterpillars disfigures the form and mars the beauty of a handsome tree, by consuming a considerable part of its foliage; again a host of aphides, by their constant sucking of the juices of the leaves, will cause them to shrivel, curl up, and often change color, and the enormous rate at which these creatures increase adds much to the difficulty of their extermination; or some unwelcome "little Turk" sits down uninvited to feed on our finest fruits, and, not satisfied with appeasing its own appetite, leaves its progeny behind to complete the work of destruction; or it may be some rascally borer insidiously undermines one's fondest hopes by girdling and thus destroying trees or shrubs whose growth has cost years of toil and watching. With the desire of helping fellow fruit-growers and others to a better acquaintance with these expensive insect guests, I purpose in this, and probably some subsequent papers, to record observations made from time to time as the season advances.

On the 6th of May the first foe was met. A lot of dwarf pear trees arrested attention from the backwardness of some as compared with others, the unequal way in which the leaves were expanding, and the dark color, almost black, of some of the buds and younger leaves. No caterpillars were to be seen, but on jarring the trees down came the enemy to the ground in considerable numbers, partly falling, partly flying. It proved to be a small bug, belonging to the true bug family, *Hemiptera*, and a species named *Phytocoris (Capsus) linearis*. I never remember having seen this creature doing damage before, so a careful examination of its work was made. Our foe "linearis" is not a "big bug;" it does not measure more than one-fifth of an inch. It is rather variable in color, from dull dark brown to greenish brown, or sometimes dirty yellowish brown. The males are usually darker than the females. The head is yellowish and has three narrow reddish stripes. The beak or sucker is about one-third the length of the body, and when not in use is folded under the breast. The thorax has a yellow margin and several yellowish lines running lengthwise. Behind the thorax is a yellow V-like mark, sometimes more or less imperfect, but usually sufficiently clear to help one to a ready recognition of the species. The wings are a dusky brown, and the legs of a dull, dirty yellow.

This enemy ensconces himself within the young leaves of the just open-

ing buds, puncturing them about their base and along the edges, and extracting their juices with its beak. The result was to disfigure and sometimes entirely destroy the young leaves, causing them to blacken and shrivel up. They were also somewhat partial to the unopened buds, piercing them from the outside and sucking them nearly dry, when they also withered and blackened. Sometimes a whole branch would be thus affected, becoming first stunted, then withered, next dead. Dr. Harris, in his "Insects Injurious to Vegetation," mentions this bug as occurring in Vermont in large numbers in 1851, attacking almost every green thing and doing a great amount of damage throughout the summer. In our own case they disappeared in about a fortnight, but left the trees in a very dilapidated state. Press of other work prevented any remedies being used. Probably a solution of soft soap or dry unslacked lime would have lessened their numbers.

On the 10th of May I was astonished to see the young larva of the gooseberry saw-fly, *Nematus ventricosus*, commencing its depredations on the freshly expanded leaves. This was nearly a month earlier than its usual time of appearing, the leaves having expanded about three weeks earlier than usual. On examining the under side of the leaves rows of white eggs were found in abundance in different stages of development. Those newly deposited were very much smaller than the others, and appeared to be but *slightly* attached to the surface, not let into a slit made in the leaf by the saw of the female, as is commonly supposed; at least I could find no traces of such an operation, although I examined them carefully with a microscope. The gooseberries were now in full bloom. In the second volume of the CANADIAN ENTOMOLOGIST, p. 16, and also at p. 48, an opinion is expressed that a cocoon of this insect found freshly made on the 29th of May was the work of a larva which had wintered over. The observations made this spring do not in any way upset this idea, for the earliness of the season will account for the apparent discrepancy. They will certainly prove very troublesome this season, they are so very abundant, and now, at the last of the month, when many of the full-grown larvæ have gone into chrysalis, freshly-laid eggs or larvæ just hatched may be found on almost every bush. Remedy—patience and plenty of hellebore, an ounce or two to the pailful, and shower lightly on the bushes with a watering pot.

There is a small caterpillar, a leaf-roller or case-maker, which is very troublesome. It probably passes the winter in the caterpillar state, for almost as soon as the buds begin to burst it begins its mischievous operations, and when first observed is not usually more than half grown. It is a very small thing even when full grown, being then half an inch in length,

with a small shining black head and a dirty brown colored body, with a few small brown dots and fine hairs scattered over its surface. Its tenement consists of a dried-up, blackened leaf, portions of which are drawn together so as to make a rude case, the centre part of which, where his highness resides, is lined with silk. It is very fond of going just where you do not want it. It is partial to the blossoms and newly-formed fruit. If you have a new pear or apple fruiting, with a single bunch of blossom on it, which you are anxiously watching, by-and-by you find that several of the blossoms have set, and while you are flattering yourself that they are doing well, along comes this mischief-maker, pitches his tent alongside this very spot, and drawing the young fruit together with silken threads, holds high carnival among them and frustrates your hopes. Another of its tricks is to gnaw a hole into the top of the branch from which your bunch of blossom issues, and, tunnelling it down, cause the whole thing to wither and die. Often it contents itself with damaging the leaves only, and this one does not mind so much, drawing one after another around its small inside case, until it forms quite a belt of withered and blackened leaves.

Hand picking is the only remedy suggested for these, unless you can employ small birds, such as sparrows, in hunting them up for you.

The moth which this caterpillar produces is rather a pretty little thing. Its name we are not yet able to give. It measures, when its wings are expanded, about half an inch. Its fore wings are greyish brown, with a shining white, almost silvery band across the middle, widest on the front margin. The hind wings are plain pale blue, and both are prettily fringed with fine brown hairs, those on the hind wings longest. It appears on the wing from the middle of June until the early part of July. It probably lays its eggs on the leaves, and when the young worms appear, which is most likely early in the fall, they make their small inner silken case, and attaching themselves to some part of the tree, remain unobserved, and in this condition probably winter, awaking to new life and energy with the opening spring.

ICHNEUMON IN A SPIDER'S COCOON.

BY WM. COUPER, MONTREAL.

I inclose an ichneumonid spider's cocoon, which I found on the mountain of Montreal early in May last. When I opened the cocoon, the larvæ had a bluish colour and were quite active. It produced about forty specimens of the fly, which I send you, as I have no means at hand of determining the species. There is however a very nice investigation in regard to the economy and *modus operandi* of this little ichneumon. That is, how does it reach the spider's eggs? I cannot detect an ovipositor, and the body of the creature itself is only about a sixteenth of an inch long. The eggs were

protected with a dense covering of silk, which interiorly was very hard and difficult to penetrate ; still I cannot see any other way by which it could reach the eggs, unless the spider was compelled to retreat from the nest, when it was only partially covered with silk, and that the little ichneumon deposited her eggs amongst the group during the absence of the spider. If such is the case, the habits of the minute ichneumonidae are similar to those of the small parasitic species of *Microgaster*, for the latter always use stratagem, and, like the Dipterous cuckoo-flies, take advantage to deposit their eggs during the absence of the true owner of the nest. I do not know the species of spider to which the cocoon belongs.

NOTICE OF THE SPECIES OF DREPANODES.

BY AUG. R. GROTE, DEMOPOLIS, ALA.

It is easy to distinguish the species of the genus *Drepanodes* from the other Phalaenidae, by their falcate or acutely produced primaries and their strong casual resemblance, both in size and ornamentation, to the *Platypteryginae* (*Drepana*, *Platypteryx*, *Dryopteris*), a sub-family of *Bombycidae*. This resemblance, while it has suggested to M. Guenée the generic name, is paralleled in the sub-order in different instances ; but is here noteworthy as illustrating the synthetic relation which the great family *Bombycidae* sustains to the other moths. The nearer affinities of *Drepanodes* in its family are with *Chaerodes*.

In the eighth volume of the *Annals of the Lyceum of Natural History of New York*, will be found figures and descriptions of three species of this genus. Of these I have found *D. puber* and *D. varus* in Central Alabama. A fourth, which I here describe, I have from the same locality. This species (*D. sesquilinea*) I believe to be identical with one of which I have seen many specimens from New York and Massachusetts, but which I cannot at this writing compare. This not improbably will be found in Canada.

Drepanodes sesquilinea, n. sp.

Male. Pale smooth fawn colour, slightly lustrous ; irrorations sub-obsolete. Both median lines distinct on the primaries above. The inner roundedly angulated on the disc approximate to the black discal dot. The outer acutely angulated below costa, consisting of a very narrow whitish external line and a deep olivaceous preceding shade. Apices moderately produced. External margin lined with olivaceous. Terminally there are distinct dark clouded spots interspaceally, between the nervules, at the middle of the wing. On the secondaries the external line is distinctly continued. External margin edged with olivaceous and stained centrally with ochreous. Outside of the external line both wings are shaded with

purplish. Beneath a little darker and more irrorate; the external line is visible on both wings and the black discal dots. The long testaceous antennæ are bi-pectinate to the tips. The body parts are paler than the wings. *Expanse* 26 m. m.

The less olivaceous more purely fawn and paler colour of this species, together with the deep and distinct lines above on the primaries, will distinguish it from *D. puber*, which it resembles in the shape of the fore wings. The squamation is close and a little lustrous.

MISCELLANEOUS NOTES.

REARING EGGS OF BUTTERFLIES.—I have been so successful this season in persuading female butterflies to deposit their eggs in captivity, that I think it well to mention the matter in the *Entomologist*. Last season I found it impossible to induce *P. Marcellus* to lay upon leaves or stems of pawpaw that had been cut. This spring I placed a nail-keg, from which the bottom had been knocked out, the top being covered with cloth, over a low pawpaw growing near my house; and on confining a female *Ajax* therein, she at once began to deposit her eggs, and continued till the number reached more than twenty. In a few days the young larvæ came out, and with very little trouble I succeeded in raising several of them to the chrysalis state, in which they now are. (I expect to prove by this brood that *Marcellus* and *Ajax* are but different broods of the same insect; a fact I have felt confident of for some years past, but which I could not absolutely establish for want of the link which this experiment will supply). I afterwards treated other females of *Ajax* in the same manner, and with the same results.

A *C. Philodice*, confined in the same way with growing clover, at once deposited a great number of eggs. So did *Nisoniades Lycidas*, and *N. Pylades*, Scudder, upon *Hedysarum*. In fact in every instance so far tried, the females have obliged me with as many eggs as I wanted; and I incline to think this mode of taking eggs will always be successful.—W. H. EDWARDS, Coalburgh, West Va.

COLORADO POTATO BEETLE.—This most destructive insect (*Doryphora 10-lineata*, Say) has appeared in the western parts of this province, and is already committing great ravages upon the potato plants. We have received specimens both in the larval and imago states from Windsor, county of Essex, and Colville, county of Lambton, Ont. The most approved remedy for it is to dust the affected plants with a mixture of one part of Paris green and six parts of flour or ashes. Detailed illustrated descriptions of the insect may be found in the *American Entomologist* for November, 1868, and in the forthcoming number of the *Weekly Globe* and *Canada Farmer*.

THE CURRANT-BUSH SAW-FLY.—I have moved this year to a house where there is a garden, in which I have made an unexpected discovery, namely,

that *Nematus ventricosus*, Klug, is found at Quebec. The larvæ have been very destructive, stripping some of the gooseberry and currant bushes almost before I knew they were there.—G. J. BOWLES, Quebec. [This pestilent saw-fly has been more than usually destructive this year in the province of Ontario. It appears now to have spread over the whole Dominion of Canada, as well as over some of the neighbouring States; last year we received specimens from Mr. J. M. Jones, of Halifax, Nova Scotia.—ED.]

AMERICAN BUTTERFLIES AND MOTHS.—(1) Do you know of any work on *American Butterflies and Moths*, published in numbers in cheap form, like Newman's *British Moths and Butterflies*, in which every known specimen is figured and described in caterpillar, chrysalis and perfect state, both male and female? and if not, would not such a work pay? (2) Would it not be a good plan to begin such a work in the CANADIAN ENTOMOLOGIST, taking, say butterflies first, each variety in succession, giving scientific and popular names, with wood-cuts of caterpillar, chrysalis, and full grown insect, one in each number till the work is completed?—J. W. H. ROWLEY, Yarmouth, Nova Scotia. [REPLY by ED. C. E.—(1) There is no such work being published in parts; but Mr. Scudder, of Boston, Mass., has in preparation an elaborate work on the Butterflies of New England, which will include probably all the Canadian species. It is to contain descriptions, with coloured illustrations of the eggs, larvæ, pupæ, imagines and parasites, of all the species found in the New England and neighbouring States and Provinces. It must necessarily be an *expensive* work, though no doubt it will be issued at as cheap a rate as possible. It is rather difficult to say whether such a work as Mr. Rowley contemplates would *pay* in America; if well got up and made interesting and attractive to the ordinary collector it might obtain a large sale, but Entomology has hardly a sufficient number of votaries on this Continent as yet to assure against loss in such an undertaking. As far as a work on the Butterflies alone of North America is concerned, nothing can surpass in beauty and excellence Mr. Edwards' work, now being issued in quarterly parts, but of course it is not a cheap work, each part being \$2.50 in U. S. currency, though well worth the money. (2) We should be delighted to carry out such a work in the numbers of the CANADIAN ENTOMOLOGIST, had we sufficient means to pay for the wood-cuts. If any enthusiastic Entomologist will supply the necessary funds, or give us a sufficient guarantee against loss, we shall be only too happy to do all the rest of the work to the best of our ability.]

AMERICAN ASSOCIATION.—The nineteenth meeting of the American Association for the Advancement of Science will be held at Troy, N. Y., commencing on Wednesday, August 17th, 1870. The Local Secretaries are Messrs. B. H. Hall and H. B. Nason, Troy, N. Y.

LIST OF COLEOPTERA,

TAKEN AT GRIMSBY, ONTARIO, BY J. PETTIT.

(Continued from page 103.)

RHIPICERIDÆ.

**Sandalus niger*, *Knoch*.

DASYLLIDÆ.

Eurypogon niger*, *Motsch*.*Cyphon nebulosus*, *Lec*.modestus, *Lec*.ruficollis*, *Say*.fuscipes, *Kirby*.piceus, *Lec*.*Prionocyphon discoideus*, *Say*.**Helodes pulchella*, *Guer*.**Eucinetus terminalis*, *Lec*.

LAMPYRIDÆ.

Dictyoptera perfaceta, *Say*.*Calopteron reticulatum*, *Fab*.**Cænna dimidiata*, *Fab*.*basalis, *Lec*.*Eros coccinatus*, *Say*.mundus, *Say*.**thoracicus*, *Rand*.sculptilis, *Say*.**oblitus*, *Newm*.**crenatus*, *Germ*.humeralis, *Fab*.**modestus*, *Say*.mollis, *Lec*.canaliculatus, *Say*.**Calyptocephalus bifarius*, *Motsch*.*Lucidota atra*, *Fab*.*Photinus corruscus*, *Linn*.nigricans, *Say*.angulatus, *Say*.*Photinus borealis*, *Rand*.ardens, *Lec*.marginellus, *Lec*.**scintillans*, *Say*.*Photuris Pensylvanica*, *DeGeer*.**Phengodes plumosa*, *Hoff*.*Chauliognathus Pensylvanicus*,*DeGeer*.*Podabrus basillaris*, *Say*.**flavicollis*, *Lec*.modestus, *Say*.diadema, *Fab*.rugulosus, *Lec*.**piniphilus*, *Esch*.punctatus, *Kirby*.¹**puncticollis*, *Kirby*.**lævicollis*, *Kirby*.pattoni, *Lec*.*Telephorus excavatus*, *Lec*.Carolinus, *Fab*.angulatus, *Say*.**lineola*, *Fab*.rectus, *Mels*.**imbecillis*, *Lec*.**flavipes*, *Lec*.**nigriceps*, *Lec*.fraxini, *Say*.rotundicollis, *Say*.tuberculatus, *Lec*.bilineatus, *Say*.*Silis percomis*, *Say*.**Trypherus latipennis*, *Germ*.

* Species marked with an asterisk have not before been included in the list of Canadian Coleoptera.

¹ An individual of this species is remarkable for having three antennæ. The duplicate, which is placed directly in front of the right antenna, consists of ten joints with a three-jointed branch from the base of the ninth.

**Malthinus occipitalis*, *Lec.*

**Malthodes concavus*, *Lec.*

**transversus*, *Lec.*

MALACHIDÆ.

Collops 4-maculatus, *Fab.*

vittatus, *Say.*

**Anthocomus flavilabris*, *Say.*

**Attalus melanopterus*, *Er.*

**morulus*, *Lec.*

**Ebæus oblitus*, *Lec.*

**Melyris cribratus*, *Lec.*

CLERIDÆ.

**Cymatodera bicolor*, *Say.*

**Priocera castanea*, *Newm.*

Trichodes nuttalli, *Kirby.*

Clerus nigripes, *Say.* (var.)

**nigrifrons*, *Say.*

**thoracicus*, *Oliv.*

trifasciatus, *Say.*

dubius, *Fab.*

sanguineus, *Say.*

**Hydnocera unifasciata*, *Say.*

pallipennis, *Say.*

verticalis, *Say.*

**longicollis*, *Zieg.*

**Phyllobæus dislocatus*, *Say.*

**Ichnea laticornis*, *Say.*²

Chariessa pilosa, *Forst.*

onusta, *Say.*

**Orthopleura damicornis*, *Fab.*³

**Labricobius rubidus*, *Lec.*

Corynetes violaceus, *Linn.*

LYMEXILIDÆ.

**Lymexylon sericeum*, *Harris.*⁴

CUPESIDÆ.

Cupes capitata, *Fab.*

concolor, *Westw.*

PTINIDÆ.

Ptinus fur, *Linn.*

Eucrada humeralis, *Mels.*

**Ernobius mollis*, *Thom.*

**tenuicornis*, *Lec.*⁵

**Oligomerus sericeus*, *Lec.*

Sitodrepa panicea, *Thom.*⁶

**Trichodesma gibbosum*, *Say.*

**Hadrobregmus errans*, *Mels.*

**carinatus*, *Say.*

linearis, *Lec.*

**Petalium bistriatum*, *Say.*

Anobium notatum, *Say.*

**Tripopitys sericeus*, *Mels.*

**Xyletinus peltatus*, *Harr.*

fucatus, *Lec.*

**Hemiptychus gravis*, *Lec.*⁷

**Protheca puberula*, *Lec.*

**Cænocara oculata*, *Lec.*

Ptilinus ruficornis, *Say.*

**thoracicus*, *Lec.*

Endecatomus rugosus, *Rand.*

Böstrichus serricollis, *Germ.*

**truncaticollis*, *Lec.*⁸

Lyctus striatus, *Mels.*

² July, on hickory.

³ July 27th, on hickory.

⁴ Under bark of dead oak, in August.

⁵ On pine, May 31st.

⁶ Drug store, Grimsby, in *Cantharis vesicatoria*.

⁷ Bred from woody fungus.

⁸ Under bark of black ash stumps; last of July.

LIST OF COLEOPTERA

COLLECTED BY A. S. PACKARD, JUN., AT CARIBOU ISLAND, LABRADOR, STRAITS OF BELLE ISLE.

The Coleoptera here enumerated, and named several years since by Dr. Leconte, were collected by me during the summer of 1860 at Caribou Island while a member of the Williams College expedition to Labrador and Greenland under the direction of Prof. P. A. Chadbourne. This is an incomplete list of the Coleoptera of Labrador; and in a subsequent expedition with my friend, Wm. Bradford, the artist, to Hopedale, Labrador, many more forms, as yet not named, were collected.—A. S. P.

<i>Gyrinus</i> , not determined.	<i>Calathus confusus</i> , Lec.
<i>Agabus punctulatus</i> , Aubé.	<i>Bledius</i> , not determined.
“ <i>laev dorsus</i> , Lec.	<i>Ips sanguinolentus</i> , Oliv.
“ <i>semipunctatus</i> , Kirby.	<i>Byrrhus Americanus</i> , Lec.
“ <i>subfasciatus</i> , Lec.	“ <i>Kirbyi (picipes)</i> , Kirby.
“ <i>infuscatus</i> , Aubé.	<i>Eanus vagus</i> , Lec. (<i>Limonius vagus</i> , Lec.)
<i>Colymbes sculptilis</i> , Harris.	“ <i>maculipennis</i> , Lec., n. sp.
“ <i>picipes</i> , Kirby.)	<i>Philhydrus bifidus</i> , Lec.
<i>Hydroporus tenebrosus</i> , Lec.	<i>Podabrus mandibularis (Acmaeops</i> <i>proteus</i> , Lec., <i>Lepr. proteus</i> , Kirby.
<i>Silpha Lapponica</i> (Linn.)	<i>Atomaria</i> , not determined.
<i>Creophilus villosus</i> , Grav.	<i>Criocephalus agrestis</i> , Kirby.
<i>Amara similis</i> , Lec. (<i>Stereocerus</i> <i>similis</i> , Kirby).	<i>Leptura</i> , n. sp.
<i>Amara</i> near <i>melanogastrea</i> , Esch., perhaps <i>brunnipennis</i> , Dej.	

BOOKS RECEIVED.

Glimpses of Nature, a Magazine of Natural History in all its branches. Edited by Samuel M. Maxwell. Vol. i. No. 1. Mauch Chunk, Pa., June, 1870.—A new and neatly printed periodical, to which we wish all possible success.

First Annual Report of the American Museum of Natural History. January, 1870. New York.

Notes on Graptas C-aureum and interrogationus, Fab.; and *Descriptions of new species of Diurnal Lepidoptera found within the United States.* By Wm. H.] Edwards. Among the eighteen new species described in the latter paper is one, *Pieris Virginiensis*, that has been taken in London, Ont., by Mr. Saunders.

Proceedings of the Boston Society of Natural History. Vol. xiii. pages 225 to 256.—*Hardwicke's Science Gossip.* Nos. 64 to 67.—*Nature.* Nos. 22 to 33. *Le Naturaliste Canadien*, Vol. ii., Nos. 5. 6. 7.—*The American Naturalist*, Vol. iv., Nos. 2 to 5.—*The American Entomologist and Botanist*, Vol. ii., Nos. 6 to 8.—*Petites Nouvelles Entomologiques*—*The Rural New Yorker*—*The Prairie Farmer*—*The American Agriculturist*

—*The Maine Farmer*—*The Bunker Hill Aurora*—*The Weekly N. Y. Sun*—*Arthur's Home Magazine* and *The Children's Hour*—*The Canada Farmer*—*The Journal of Education*, Toronto. Vol. xxiii., Nos. 1 to 5—*Newman's Entomologist*, Nos. 75 to 78 (from Mr. Reeks)—*The Horticulturist*, New York. Nos. 286 to 288.

CHANGE OF ADDRESS.—Mr. Wm. Couper, Naturalist, has removed from *Ottawa, Ont.*, to MONTREAL, P. Q.

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CANADA.—E. B. Reed, London, Ont.; W. Couper, Naturalist, Montreal, P. Q.; G. J. Bowles, Quebec, P. Q.; J. Johnston, Canadian Institute, Toronto, Ont.

UNITED STATES.—The American Naturalist's Book Agency, Salem, Mass.; J. Y. Green, Newport, Vt.; W. V. Andrews, Room 17, No. 137 Broadway, N. Y.

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